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(54) Television programme and advertising data analysis

(57) A communications analysing apparatus (1) is disclosed. A booking processor (2) is connected to a current advertisement database (6) and to a programme ratings database (10). Other databases include a campaign database (14) and a bookings database (16). Sequential accesses to these databases enables efficient generation of meaningful reports with little risk of data degradation. Further, the current advertisement data, the programme ratings database and the rates database.(12) are also connected to a campaign monitoring processor 30 for generating of analysis reports and the programme ratings database and universal and profile databases are connected to a programme monitoring processor for generation of programme analysis reports. The manner in which the apparatus (1) is constructed allows efficient processing without degradation of data and versatility in the range of reports which may be generated.

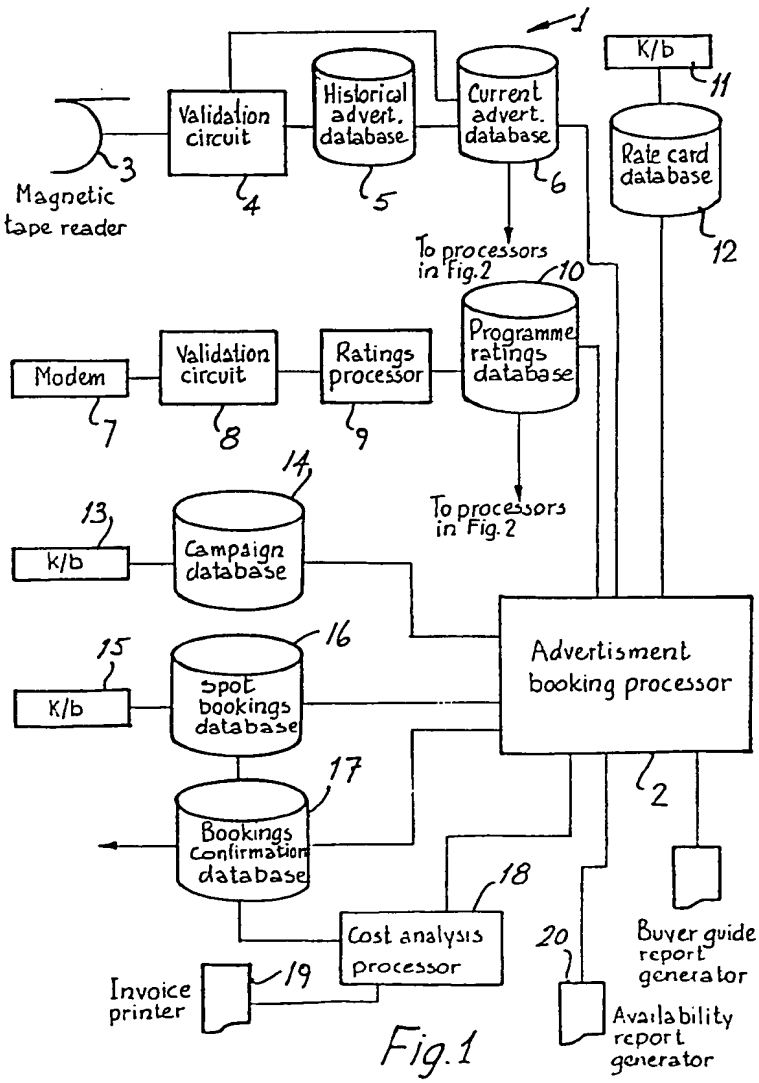

Fig.1

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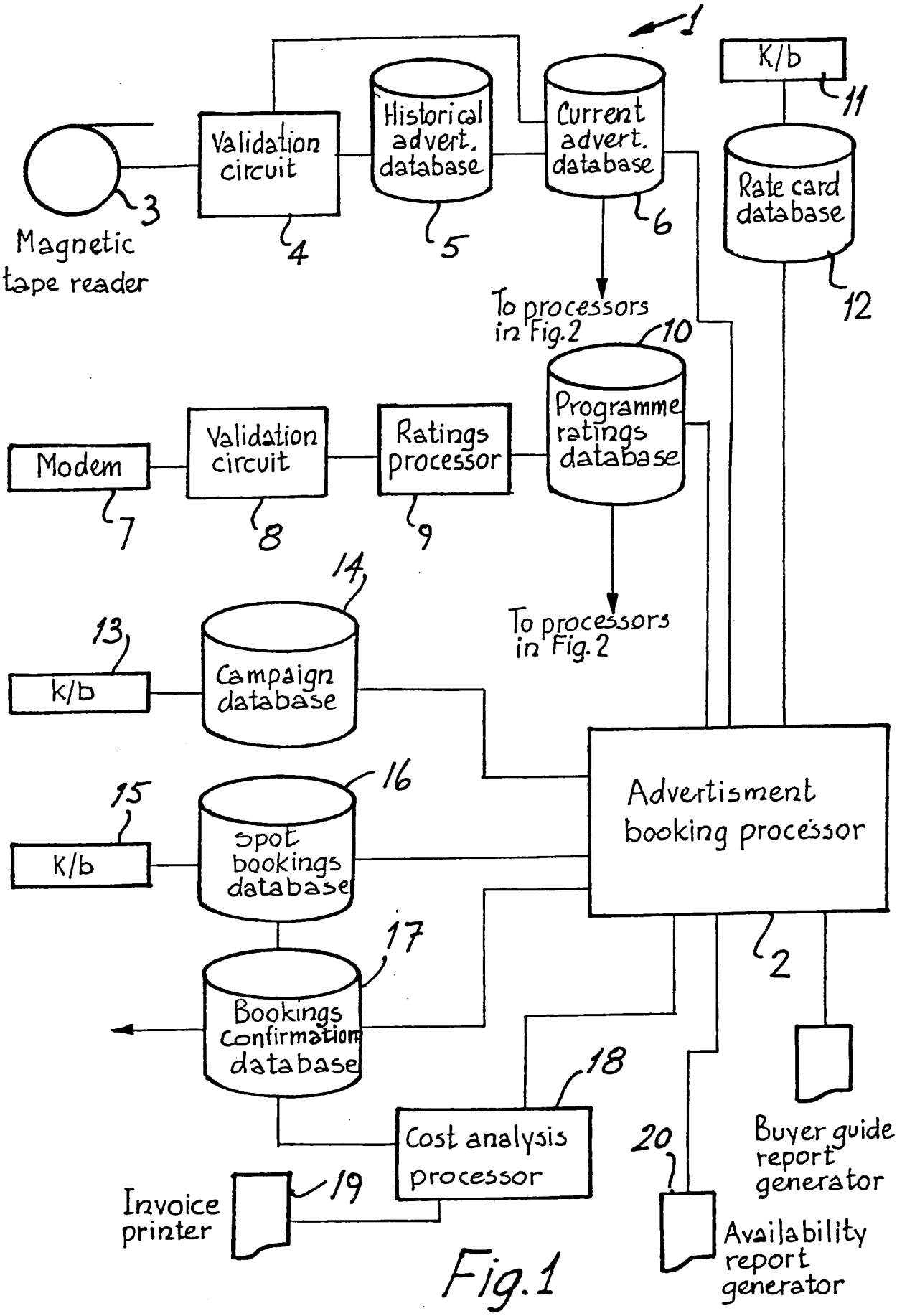

Fig.1

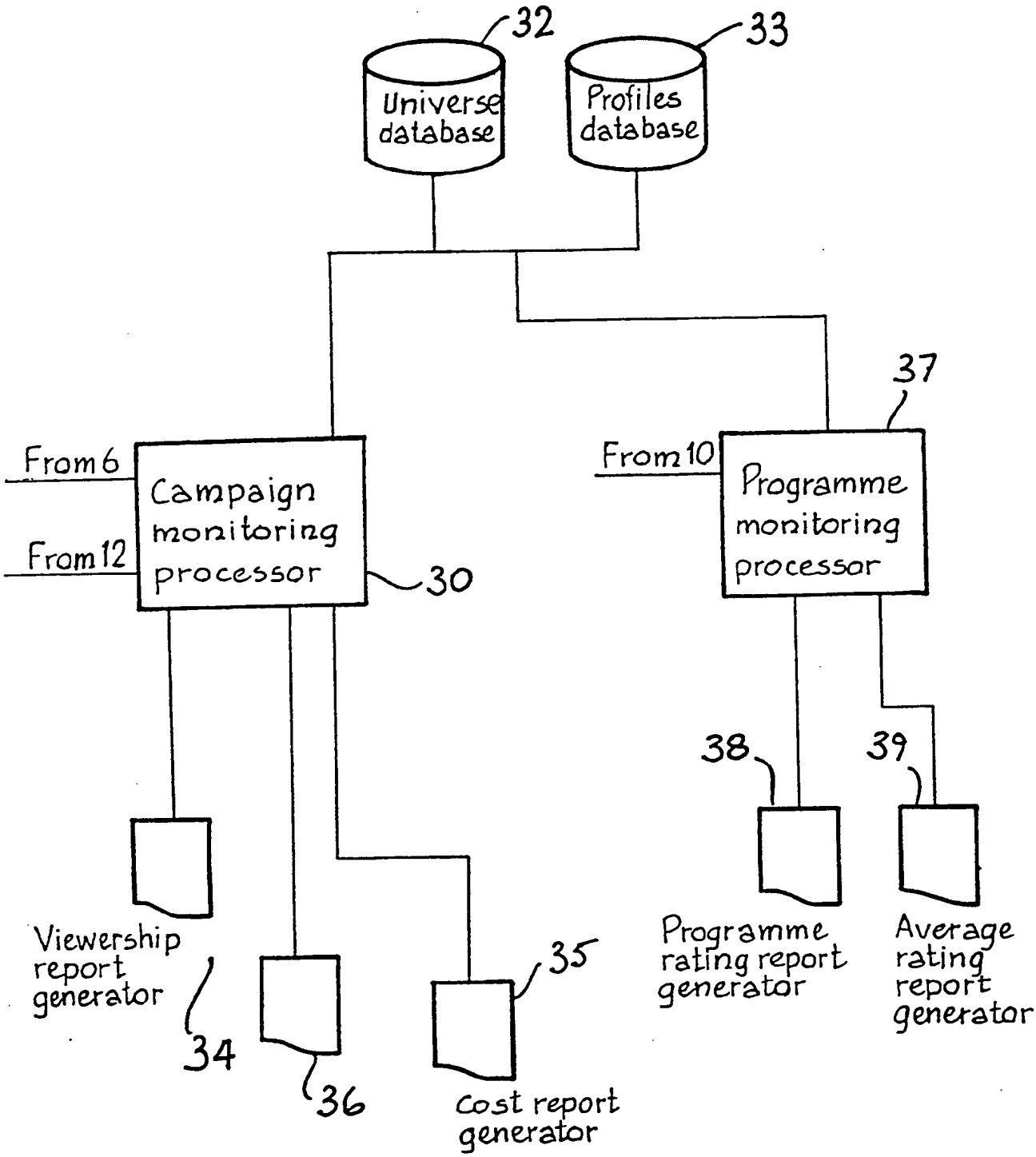

Fig. 2

"A communications analysing apparatus"

The invention relates to an apparatus for the analysis of communications data, and more particularly television advertisement transmission data and programme transmission data.

At present, there is an increasing number of options open to a company who wish to advertise because of the wide range of media available to them. Further, even within the television medium alone, there is often a wide choice of television channels, viewing times, types of programmes being transmitted and types of viewing audiences. Because of the reduction in available advertising time in some cases, coupled with an increase in demand, television advertising is becoming increasingly expensive and particular skills and knowledge are needed in order to ensure optimum value for money for advertisers.

Heretofore the approach to selecting advertising time slots on television has been to consider viewership data (often referred to as TAM ratings) and to estimate which time slots

will deliver the biggest and/or the most cost effective audience for the particular product being advertised.

Because of the increasing expense and the developing range of parameters to be taken into consideration, such a broad approach does not give an advertiser or his/her media buyers and planners sufficient information to allow them to properly decide on the allocation of what are often large sums of money.

In many cases advertising campaign results are not satisfactory or indeed perhaps more money was spent than was actually required.

The invention is directed towards providing an apparatus to overcome these problems. The ability to buy television time more efficiently and cost effectively against specific target audiences confers a competitive edge to the advertising agency which can demonstrate to existing and potential clients that it has a unique expertise in this area. The invention is crucial in this context.

According to the invention, there is provided a communications analysing apparatus comprising:-

an advertisement booking processor connected by three input bi-directional communication links to:-

a first series connection of a magnetic tape reader, a validation circuit for validation of read data, an advertisement database storing data received on magnetic tape relating to advertisements broadcast and a current advertisement database storing advertisement data for a current time period;

a second series connection of an input interface, a ratings processor for processing of data received via the modem relating to programme ratings, a validation circuit for validation of the received data and a database storing received and validated data relating to broadcast programmes;

a third series connection of a keyboard and a rate card database storing data relating to television advertisement rates;

a campaign database storing data relating to a particular advertising campaign; and

a bookings database storing data relating to advertisements booked, said database having means for being automatically updated as advertisements are booked, and being connected to a bookings

confirmation database connected for reception of data relating to confirmation of bookings;

the advertisement booking processor comprising means for reading the databases connected to it and comparing booked advertisements with current advertisement data, with programme ratings data, with rate card data, and with campaign data and means for feeding back comparison signals to a user via a video terminal to facilitate input of bookings data and means for directing printing of a daily bookings guide;

a campaign monitoring processor connected to the databases and comprising means for matching data for advertisements booked with that for broadcast programmes and advertisements, means for transmitting a signal indicating non-matching and means for directing generation of a report indicating cost per unit viewer and costs per viewer rating and means for sorting the date to generate performance reports for each advertisement and each campaign; and

a programme monitoring processor connected to the databases and comprising means for retrieving data relating to programmes during which advertisements were booked and directing generation of a report indicating viewership of programmes sorted according to rating.

Preferably, the apparatus further comprises a universe database storing potential viewership statistics and a programme profiles database storing data relating to viewership ratings for geographical areas, the universe and the programme profiles database being connected to the advertisement booking processor, the campaign monitoring processor and to the programme monitoring processor.

The invention will be more clearly understood from the following description of some preferred embodiments thereof, given by way of example only with reference to the accompanying drawings in which:-

Fig. 1 is a representation of portion of an analysing apparatus showing input connections and devices for recording booking of advertisement slots; and

Fig. 2 is a block diagram illustrating the remainder of the apparatus in which report output generators are illustrated.

Referring to the drawings, and initially to Fig. 1, there is illustrated portion of a communications analysing apparatus 1 of the invention. The apparatus 1 comprises an advertisement booking processor 2 which is described in more detail below. The processor 2 is connected to a first series connection of

a magnetic tape reader 3, a validation circuit 4, an historic advertisement database 5, and a current advertisement database 6. A second series connection of a modem 7, a ratings validation circuit 8, a processor 9, and a programme ratings database 10 is also connected to the processor 2. A third series connection of a keyboard 11 and a rate card database 12 is also connected. The apparatus 1 also includes a keyboard 13 connected to a campaign database 14 and a keyboard 15 connected to a spot bookings database 16. The bookings database 16 is linked to a spot bookings confirmation database 17. All three databases 14, 16 and 17 are connected to the processor 2. The database 17 is also connected to a cost analysis processor 18, which is connected to an invoice printer 19. The booking processor 2 is also connected to an availability report generator 20. Before describing the remainder of the apparatus 1, that portion illustrated in Fig. 1 is now described in more detail.

The validation circuit 4 is constructed to check all data which is read by the magnetic tape reader 3. To monitor the data, the validation circuit 4 ensures that advertisement data which is read includes a product code, a product title, a television channel code, a date and time of broadcast, an advertisement spot duration, and associated viewership ratings. For example, one validation operation involves ensuring that the product code is made up of seven digits, the first two digits indicating a main category for the product,

the second two digits indicating a sub-category and the remaining three digits indicating a brand code for the product. If a fault is detected in read information, a signal is transmitted to a video screen which displays the fault. A report is generated of any errors, which report is given to the suppliers of the magnetic tape. Validated data is transmitted to the historic advertisement database 5 to update it and also to the current advertisement database 6. The current advertisement database 6 stores advertisement data for the previous twelve weeks, whereas the historic advertisement database 5 stores data for the previous one hundred and four weeks. It will thus be appreciated that access to the current advertisement database 6 requires considerably less time than to the historic advertisement database 5, thus speeding operation of the apparatus 1. Indeed, most on-line accesses are to the current advertisement database 6. The principal use of the historic advertisement database 5 is the production of ad-hoc reports over a back-dated period.

The advertisement booking processor 2 is connected via the modem 7 to a supplier of programme data. The modem 7 operates at 9600 baud and is connected as a leased data line. Received data is validated by the validation circuit 8 and the ratings processor 9 sorts the received information as desired. In this embodiment, the received programme data is sorted into categories for geographical regions, social classes, age groups and other special interest audience categories.

Further, other information for example programme title, duration and transmission date and time, relating to each particular programme is stored within a separate file. All of this process data is loaded to the programme ratings database 10 for storage. The database 10 contains programme data for the previous one hundred and four weeks.

From time to time, changes in the television broadcasting station charge rates occur and these are manually updated by the keyboard 11 to the rate card database 12.

The campaign database 14 is constructed to store data relating to a particular campaign with separate fields including a reference number, a client, product, campaign start and end dates, target audiences, expenditure budgets, and target of ratings. The expenditure budgets and estimated ratings can be divided over different spot lengths, for example, separated between 10, 30 and 40 seconds for the same product. Thus, there is a relatively large file for each campaign which is current and these files are accessible by the advertisement booking processor 2. The bookings database 16 is updated with data immediately when any advertisement spot is booked that includes the date and time, the channel, the spot duration, and a provisional booking indication. When the bookings database 16 is up-to-date, the advertisement booking processor 2 reads from the programmes ratings database 10 data relating to programmes which have criteria which match those for a

particular campaign. The processor 2 directs display of a potential list of programmes within which advertisement spots may be booked and this assists in choice of a time slot. Further, the cost of the potential spots is displayed on retrieval of data from the rate card database 12. As each advertisement spot is confirmed by the broadcasting station, this data is updated into the database 17 and the cost analysis processor 18 directs generation of invoices for that client, and of reports indicating availability of advertisement slots in the near future. The advertisement booking processor 2 also directs display of a buyer guide of data relating to advertisement spot bookings which have been made.

Referring now to Fig. 2, there is illustrated a campaign monitoring processor 30 which is connected to the databases 6 and 12 of Fig. 1. Further, the processor 30 is connected to a universe database 32 and to a profiles database 33. At its output, the processor 30 is connected to a viewership report generator 34, a cost report generator 35 and to a comparative activity report generator 36. The databases 32 and 33 are also connected to a programme monitoring processor 37 which is also connected to the programme ratings database 10. The programme monitoring processor 37 is connected at its output to a programme rating report generator 38 and to an average rating report generator 39. The function of the campaign monitoring processor 30 is very important as it

enables useful reports to be generated for clients, planning for future campaigns, measuring of performance against a competitors activity and receiving performance of specific television programmes in terms of ratings. The processor 30 is capable of generating such information because it is connected separately to the rate card database 12, the current advertisement database 6 and to the programmes ratings database 10. For example, as a campaign proceeds the programme ratings database 10 is being updated each day and because the processor 30 is constructed to sort and retrieve data relating to programmes which have been booked, progress of a particular campaign may be analysed. In addition, the universal database 32 provides data relating to universal population and viewership figures such as the total adult viewership and the total children viewership. The profiles database 33 provides data on the social profiles of people within certain geographical areas.

All of these various categories of data are stored separately and may be accessed sequentially by the processor 30 to enable efficient generation of complex reports. In particular, for generation of viewership reports, the processor 30 reads selected product codes, extracts requested advertisement spot data within a given time span, matches the selected data with data retrieved from the bookings confirmation database 17 to generate actual spot costs. Further, the processor 30 displays any non-matched spots, allows for manual amendment

of records by a keyboard, and for every record retrieves and directs output of viewership ratings for a requested audience category. One particularly useful report which is generated at the cost report generator 35 is the total cost per 1000 viewers. Another useful report is that referred to as a cost per rating point analysis report in which ratings for advertisements are converted to an equivalent for a 30 second advertisement slot and generates reports for different types of viewers such as adults generally, men, women and children. These processing operations are carried out by cross-referencing data between the different databases.

The programme monitoring processor 37 directs generation of reports relating to programmes. One particular report generated at the generator 38 relates to individual programmes and at the generator 39, reports relating to average ratings for time periods are generated. The processor 37 carries out these operations by reference to the databases 32, 33 and 10. For example, one particular use for a report is a list of the top 30 programmes according to ratings or profiles. The processor 37 may also be connected to a plotter for generation of graphs showing trends for time periods and for programmes. It will be appreciated that the invention allows for intelligent analysis of advertising campaign requirements in view of viewership data for a recent time period. Because of the manner in which the apparatus is constructed, a very wide range of useful reports may be generated with relatively

little processing power and with complete accuracy. Random access to different databases is carried out efficiently and without degradation of data. Each individual circuit and database may be in the form of a software or hardware module or preferably a mixture of the two.

The invention is not limited to the embodiments hereinbefore described, but may be varied in construction and detail.

Claims

1. A communications analysing apparatus comprising:-

an advertisement booking processor connected by three input bi-directional communication links to:-

a first series connection of a magnetic tape reader, a validation circuit for validation of read data, an advertisement database storing data received on magnetic tape relating to advertisements broadcast and a current advertisement database storing advertisement data for a current time period;

a second series connection of an input interface, a ratings processor for processing of data received via the modem relating to programme ratings, a validation circuit for validation of the received data and a database storing received and validated data relating to broadcast programmes;

a third series connection of a keyboard and a rate card database storing data relating to television advertisement rates;

a campaign database storing data relating to a particular advertising campaign; and

a bookings database storing data relating to advertisements booked, said database having means for being automatically updated as advertisements are booked, and being connected to a bookings confirmation database connected for reception of data relating to confirmation of bookings;

the advertisement booking processor comprising means for reading the databases connected to it and comparing booked advertisements with current advertisement data, with programme ratings data, with rate card data, and with campaign data and means for feeding back comparison signals to a user via a video terminal to facilitate input of bookings data and means for directing printing of a daily bookings guide;

a campaign monitoring processor connected to the databases and comprising means for matching data for advertisements booked with that for broadcast programmes and advertisements, means for transmitting a signal indicating non-matching and means for directing generation of a report indicating cost per unit viewer and costs per viewer rating and means for sorting the date to generate performance reports for each advertisement and each campaign; and

a programme monitoring processor connected to the databases and comprising means for retrieving data relating to programmes during which advertisements were booked and directing generation of a report indicating viewership of programmes sorted according to rating.

2. An apparatus as claimed in claim 1 further comprising a universe database storing potential viewership statistics and a programme profiles database storing data relating to viewership ratings for geographical areas, the universe and the programme profiles database being connected to the advertisement booking processor, the campaign monitoring processor and to the programme monitoring processor.

3. A communications analysing apparatus substantially as hereinbefore described with reference to the accompanying drawings.

:ents Act 1977 **Examiner's report to the Comptroller under Section 17 (The Search Report)**	Application number 9116233.9
Relevant Technical fields (i) UK Cl (Edition K) G4A (AUX) (ii) Int Cl (Edition 5) G06F	Search Examiner L A MIDDLETON
Databases (see over) (i) UK Patent Office (ii) ONLINE DATABASES:WPI	Date of Search 5 NOVEMBER 1991

Documents considered relevant following a search in respect of claims 1-3

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
A	EP 0248533 A2 (SCANAMERICA) pages 1-4 especially	
A	US 4170782 A (MILLER) columns 1,2	
A	GB 2206713 A (CASE GROUP) pages 12-16 especially	

Category	Identity of document and relevant passages	Relevant to claim(s)

Categories of documents

X: Document indicating lack of novelty or of inventive step.

Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.

A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

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